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ABSTRACT

The purposes of this project were to identify, review, and analyze student and employer follow-up efforts and to synthesize findings into a review of and synthesis document (reported here) and a vocational follow-up training manual (CE 022 288). The central focus of the project was on methodology rather than findings. The review was restricted to follow-up efforts conducted after 1970. Over 600 articles and reports were identified through a traditional computerized search of the ERIC system. Additionally, over 200 documents relating to follow-up were obtained by contacting individuals throughout the United States, territories, and Canada. Approximately 300 documents were deemed important enough to warrant a detailed review. The majority of these documents were reports of the findings of a follow-up effort. The remaining documents were of three general types: manuals describing follow-up systems; methodological studies; and articles about follow-up. After the review, selected practices and procedures were summarized, including sampling techniques, non-respondent procedures, systems design and utilization of findings, methods to improve return rates, non-respondent surveys, comparative approaches, and other unique methods. Based on this review of follow-up efforts, several issues and concerns were presented relating to methodology, quality of data, documentation, reporting format, and findings. (BM)

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FOLLOW-UP PROCEDURES: A NATIONAL REVIEW

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A Comprehensive National Review and Preparation of
Training Materials for Student and Employer Follow-up

1979

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INTRODUCTION

Background

Accurate student and employer follow-up data is recognized as important to program planning and improvement. It is also a primary outcome measure in many overall management information systems. This is reflected in the general literature of the field as well as in the Educational Amendments of 1976 and accompanying regulations. Concern, however, has been expressed regarding the unavailability of much needed data and the apparent lack of reliability and compatibility of existing data. A number of research efforts which incidentally acquired data on "vocational" students have been used as national data sources to make judgements about vocational educations' effectiveness. This is at least partially a result of the unavailability of data collected specifically for that purpose. Early studies from Project Baseline (238, 239) revealed the scope of the problem. Of primary concern were missing data elements and incompatibility of existant data on national and state levels. Recommendations were made regarding the primary features of a national system for collection of data on former vocational students and their employers.

Several excellent local and statewide systems for vocational student and employer follow-up are in place. There is, however, considerable variability in the scope and quality of what is being done across the country. The three problem areas of data type and scope, data reliability and validity, and data compatibility are natural targets for improvement through the development of a national data system for vocational education. It seems apparent, however, that the primary emphasis of a national system, and even related state systems, will be accountability and planning. Individual program improvement, the original and continuing motivation for local vocational educators to follow up their students, could get lost in the rush to develop state and national systems.

Reasons for Follow-up

The Vocational Education Section (Title II) of the Education Amendments of 1976 (P.L. 94-482) emphasizes the need for follow-up of former vocational education students and their employers. Two criteria which have been mandated in the new act are the extent to which former students obtain employment in occupations related to their training and the satisfaction employers of those students express relative to their pre-employment preparation. Specifically, Section 112 (B) of the 1976 Act states:

...Each state shall evaluate by using data collected whenever possible, by statistically valid sampling techniques, each such program which purports to impart entry level job skills according to the extent to which program completers and leavers -

"(i) find employment in occupations related to their training, and

"(ii) are considered by their employers to be well-trained and prepared for employment, except that in no case can pursuit of additional education or training by program completers or leavers be considered negative in these evaluations. (p.2187).

The intent of the legislation is clear. Follow-up data relative to the product and process of vocational education programs will be collected. Additionally, it is required that the results of these follow-up activities be used in the planning and evaluation of vocational programs. Although punitive measures are specified for non-compliance, the gathering of useful and useable information seems to be the main objective.

In addition to the emphasis on accountability in federal legislation, a number of state legislatures have enacted laws in an attempt to make publicly funded programs accountable. An excellent example of this trend is the widespread establishment of minimum requirements for high school graduation. It would be unrealistic to expect a reversal of this trend.

There is increasing competition among various agencies for financial support. Those institutions which are successful in obtaining

program expansion or viability are consistent with the trend toward better management practices.

Follow-up data may also give teachers important feedback on the quality of their teaching performance. Such information is useful for self-improvement and as a source of self-satisfaction. Data regarding teaching effectiveness may well become increasingly important in the future.

The conduct and findings of follow-up studies of former students has considerable public relations value. The findings can be very useful in educating the public about the benefits of vocational education programs. Moreover, the fact that information is sought from members of the community not directly involved with vocational education programs can build good will with the general public.

Follow-up is often viewed as a task that must be accomplished in order to meet reporting requirements. This narrow view of follow-up ignores most of the benefits of follow-up while maximizing the liabilities. Follow-up should be viewed as part of a conscious effort to improve programs. If this is to happen, it must be an integral part of planning and evaluating systems.

Overview of the Project

The project "A Comprehensive National Review and Preparation of Training Materials for Student and Employer Follow-up" (NRFUP) was funded as Research Grant G00 770-2143 effective September 1, 1977 to February 28, 1979 (18 months). The purposes of the project were to identify, review, and analyze student and employer follow-up efforts and to synthesis findings into two major products: (1) a review and synthesis document (2) a vocational follow-up training manual.

The central focus of the project was on methodology rather than findings. Some forty methodological elements were identified and each follow-up report, manual, or procedures/users guide obtained was reviewed in a uniform manner on each of the forty elements. Specific information on the procedures employed to identify, obtain and review documents is provided in this report.

support can expect government officials to impose accountability requirements. Indeed, the general public is insisting that such regulations be enacted. In order to maintain public support, Vocational Education must be able to demonstrate quite clearly that funds have been spent in a beneficial and efficient way. Most of the data collected during the period that students are enrolled is helpful in establishing the efficiency of the program in terms of fiscal management. However, little evidence is produced that will help define what effects the program has had and the benefits of maintaining that program.

In order to describe any long term or lasting effects of a vocational education program it is necessary to collect information which describes what happened to students following their exit from the program. It should be obvious that this type of information can only be obtained through some type of follow-up procedure. Whether a formal or informal follow-up system is used, the level of sophistication of that system will be largely determined by the objectives of that effort. Current legislation, however, requires a minimum level of sophistication.

Graduates and their employers are often the first to identify areas in which recent technological change has created a need for program revision. Every vocational student has the right to receive up-to-date instruction that is compatible with the performance requirements on the job.

Information obtained by following up former students can also be useful in making decisions about program expansion or reduction. Results may indicate a growing labor market need and thus provide support for program expansion. The need for new programs may be established as a result of the identification of an emerging labor market need. On the other hand, programs may be considered for elimination if follow-up data detects that a labor market need no longer exists or that the salary or wages paid are so low that graduates will not enter the field. The use of follow-up data in decisions regarding

A national advisory panel of experts in the area of follow-up and management information systems was formed early in the project. This panel served as advisors and formative evaluators of the project procedures and products. The assistance of the panel was invaluable in locating quality follow-up efforts, identifying the methodological elements, and the overall conduct of the project.

The project staff made every effort to locate local, state, regional, and national follow-up efforts. Despite this extensive search there is little doubt that many excellent follow-up efforts were not identified. Also, some systems which were known to produce good results did not provide sufficient documentation for an adequate methodological review. Even with these limitations, the present document should prove to be a useful reference to vocational personnel as they develop new or refine and improve existing follow-up systems.

Rationale for the review - The need for accurate and timely follow-up data on vocational students and their employers has steadily increased. Historically, vocational educators have been concerned about the post program success of their students, but recent developments on both federal and state levels have emphasized the need for systematic approaches to follow-up research of increasing scope and sophistication. The last comprehensive review of vocational follow-up was prepared by Little (1970). That review was conducted to bring together information on follow-up procedures being used at that time.

Purpose of the review - The purpose of this document is to provide a current review and synthesis of student and employer follow-up procedures. It should be noted that the review focused on procedures, not follow-up findings or results. Moreover, only those efforts conducted since 1970 were included to minimize overlap with Little's (1970) review.

Objectives of the review - The specific objectives of this review were:

1. To provide a descriptive summary of follow-up procedures as presented in the literature and in current use
2. To identify procedures which may be useful in the design, operation or evaluation of follow-up systems
3. To provide a resource document to designers and operators of follow-up systems
4. To provide background for the preparation of the companion product, Follow-up Procedures: A Training Guide

Review procedures - Follow-up studies have been conducted by a variety of personnel such as teachers, administrators, university faculty, state department of education personnel, and research organizations. The results are available from a multitude of sources but are most often reported in journals, monographs, and project reports. This project attempted to make use of many sources of information and to conduct the most comprehensive review of literature feasible given the time and budgetary constraints. Efforts concentrated in two specific areas: first, gathering published literature concerning follow-up studies and procedures; and secondly obtaining materials directly from national, state, and local educational personnel. The second effort was necessary to insure that the review reflected current practices.

The literature search began with a preliminary review of vocational journals as well as other related professional articles. This helped to identify the general and specific descriptor terms that were compatible with the ERIC system to be used in an on-line search mode. The major search was then conducted and yielded 888 abstracted citations. These citations were classified in an effort to facilitate document review. The classification description as developed by project staff and the number of citations classified into each category were:

<u>Category</u>	<u>Description</u>	<u>No. of Citations</u>
1	<u>Directly</u> related to follow-up <u>and</u> vocational and technical education	171
2	<u>Directly</u> related to follow-up but not within vocational and technical education	246
3	<u>Broadly</u> related to follow-up <u>and</u> vocational and technical education	63
4	<u>Broadly</u> related to follow-up but not within vocational and technical education	129
5	Unrelated or remotely related to follow-up within any field	279
Total		888

Efforts were made to obtain and review all documents within Category 1. Follow-up studies classified as either 2 or 3 were selected if they were particularly relevant to the project's intent. Selected follow-up studies from outside vocational education were included since the primary focus of the review was on follow-up procedures rather than findings. Since the overwhelming majority of the documents reviewed were from vocational education, summary data were only slightly affected by such an inclusion. Where necessary and practical the authors of particular articles were contacted for additional information.

A second computer search was initiated through the ERIC system approximately eleven months after the project began. The objective of this effort was to ensure that more recent articles appearing in the ERIC system would not be overlooked. These additional studies were also classified and those most relevant were included for reference in the bibliography.

Descriptions of follow-up studies and systems were also obtained through direct communication with key individuals in state, territorial,

and Canadian Province vocational education systems. A list of all state and territorial vocational education directors was obtained from information disseminated by the United States Office of Education (USOE). A list of appropriate state Management Information System (MIS) individuals was obtained and a letter was sent to each of the state, territorial, and province vocational directors requesting permission to contact the identified MIS personnel. If the name of the MIS person listed was not correct the state vocational education director was asked to supply the correct name and title. Names of other individuals within their jurisdiction with particular expertise in follow-up were also requested. All 63 state, territorial and province directors were contacted and each responded. Positive response, in the form of actual information, names of additional contact persons, or both, was received from 60 individuals. Only one negative response was obtained. Two directors indicated they were in the early stages of developing their follow-up systems and consequently did not feel they could be of much assistance. Inquiries were addressed to 60 MIS directors and 46 responses were received. All expressed a desire to assist in the project and materials were actually received from 25. The MIS directors provided 86 additional names and these persons were contacted. In summary, over 200 individuals in 63 states, territories, and Canadian Provinces were contacted either by letter or telephone.

Documents reviewed generally fell into one of two categories. The first category was reports of actual follow-up studies that included results. The other type of document reviewed was manuals or descriptions of follow-up systems that indicated the "how" of follow-up but did not report follow-up results. The materials typically provided by state vocational education and MIS directors were of the second type.

Review guidelines - Guidelines for review were formulated as follows:

1. The review should provide a descriptive summary of methods currently used in student and employer follow-up. Necessarily, the descriptive summary must be limited to efforts with sufficient documentation to allow review.
2. Not all aspects of all studies can be reviewed or described. Therefore, methodological elements which appear to be most important to the total follow-up effort should be identified and documents uniformly reviewed on these elements.
3. Certain procedural areas in the follow-up of vocational students and their employers have presented unique challenges to the developers and operators of follow-up systems. A more specific and detailed review of promising procedures in these areas should be conducted.
4. Although national and state reporting requirements dictate that certain data elements be included in student and employer follow-up, these generally constitute a minimum set. When available, instrumentation should be reviewed and a descriptive summary of data elements compiled.
5. A tabular summary of studies should be provided so that readers can identify particular studies according to specific methodologies.

In accordance with the above guidelines, this document is organized into seven major sections:

(1) Introduction, (2) Overview of Follow-up, (3) Review of Selected Practices and Procedures, (4) Over-all Summary, (5) Bibliography, (6) State Contact Persons, and (7) Overview of Follow-up Procedures: A Training Guide.

Definitions

Census - An attempt to contact the total population rather than a sample from that population.

Compliance - Complying with or meeting the requirements of a law or agency.

Cross Sectional Study - A study in which data are collected at one point in time from several categories of individuals included in a larger population.

- Data Element - A generic category of information such as "employment status" which may contain several data items.
- Data Item - A specific piece of information within the data element (category) such as "employed full or part time".
- Follow-up - The attempt to secure educational, employment or other information from or about former students for purposes of planning, reporting, evaluation or conducting research.
- Incentive - A gift, payment, or technique used to elicit response.
- Longitudinal Study - A study in which data are collected at different points in time in order to study changes or explore time - ordered associations. Three types of longitudinal studies are commonly recognized: trend, cohort and panel. A panel longitudinal study is one in which the same individuals are followed-up at each data collection point. For purposes of the present study the terms panel longitudinal and longitudinal study are used synonymously.
- MIS - An acronym for Management Information System. A system for collecting, compiling, analyzing and reporting information needed in making management decisions.
- Non-Respondent - Individual who has not responded after all planned data collection procedures have been carried out.
- Population - The total group with which the study is concerned.
- Prompt - A reminder or other attempt to encourage response to a previous data collection attempt or to gain cooperation but not to actually collect data.
- Reliability - The extent to which an individual's responses to follow-up instrumentation are consistent either within the instrument or over a short period of time.
- Sample - A number of students or employers selected from the total population and intended to be representative of that population.
- Validity - The extent to which individuals provide the information the follow-up instrumentation was designed to collect.
- VEDS - An acronym which stands for the National Vocational Education Data Reporting and Accountability System mandated by the Education Amendments of 1976 (P.L. 94-482).

Overview of Follow-up

Approximately 300 documents relating to some aspect of follow-up were reviewed during the course of this project. The majority of the documents reviewed were reports of the findings of a follow-up effort. The remaining documents were of three general types; manuals describing follow-up systems, methodological studies, and articles about follow-up. Several reviews of follow-up procedures conducted prior to this effort were also identified.

Descriptive Summary

The descriptive summary of follow-up reports has several important limitations. First, no reports published prior to 1970 were reviewed. Second, in many cases it was impossible to determine whether reports published by the same author or agency were based on the same follow-up data. Third, it was evident from the outset that those documents which were neither follow-up reports or system manuals could not be readily summarized in terms of the key data items identified by the project staff.

General characteristics - The data presented in Table 1 would seem to indicate that interest in conducting follow-up is increasing. That may be true as state agencies are responding to recent federal and state mandates as well as the need to develop data to justify public support. However, no effort was made to gather information which would indicate the extent of follow-up efforts in past years. In fact, the emphasis of this review was on summarizing the procedures described in the literature since 1970 and individuals contacted in the states, territories and provinces were asked to provide the most current information available. Table 1 indicates the number of studies reviewed by date of release.

Table 1

Publication Dates of Follow-Up Reports Reviewed (n=139)

1970	1971	1972	1973	1974	1975	1976	1977	1978	Not Specified
1	5	5	12	12	26	28	41	7	2

Table 2 indicates that State Department of Education (SDE) staffs are the group most active in conducting follow-up. This would be expected because of the need to meet Federal reporting requirements. Additionally, many of the follow-up reports prepared by contractors, administrators, and others were completed for SDEs. Those reports which were joint efforts most often were prepared in cooperation with the SDE. The single instance identified in which students conducted the follow-up and prepared the report was a local effort in Alaska (103). Students conducted the follow-up in conjunction with a job survey (104) and task analysis (105) as part of a classroom activity. The results, however, were used to fulfill local, state, and federal reporting requirements.

Table 2

Description of Individuals Preparing
Follow-Up Reports (n=139)

Student	Teacher	Program Head	Adminis- trator	State Dept. Staff	Contr- actor	Other	Com- bined Effort	Not Speci- fied
1	4	4	26	39	29	25	7	4

Overall, the data in Table 3 indicate that the majority of formal follow-up efforts about which information is readily available are being conducted by or for state agencies. Many of those which did not specifically indicate a source of financial support can also be assumed

to be state supported. Several joint state and local efforts were identified.

Table 3

Source of Financial Support for Conduct
of Follow-Up (n=139)

Locality	State Agency	Federal Govern- ment	Grant	Other	More Than One Source	Not Specified
11	66	17	1	5	4	35

The objectives of follow-up efforts are seldom identified in follow-up reports. In some instances the objectives are implied but are not specifically defined. Less than one-third of the reports included in Table 4 stated or implied that one of the objectives of the follow-up was to generate the data necessary to meet compliance or reporting requirements. Yet, collection of reporting data may be assumed to be an objective of many of the efforts financed by state agencies. Overall, evaluation was the most frequently stated follow-up objective. The investigation of some specific research question was the most common objective among those studies found to have objectives classified in the category "Other".

Table 4

Objectives of Follow-Up Efforts (n=139)

	Compliance/Reporting	Planning	Evaluation	Other
Yes. . . .	43	81	102	39
No	91	53	32	96
Unclear. .	5	5	5	4

The academic level of the subjects followed-up is depicted in Table 5. Over half of the reports reviewed dealt with the follow-up of subjects who had been in post-secondary institutions. Former students of secondary institutions were the subjects of most of the remaining efforts. Few efforts to follow-up students from adult programs were identified. The category "Special Groups" includes follow-ups of such individuals as products of teacher training programs, non-academic programs, and drop-outs. The category "Special Groups" overlapped the other categories in the following instances: secondary in 2 cases; post-secondary in 2 cases; adult in 1 case; secondary and post-secondary in 1 case; and secondary, post-secondary, and adult in 1 case. Only seven reports were identified which dealt with the follow-up of former students at all three academic levels.

Table 5

Academic Level of Follow-Up Subjects (n=139)

	Secon- dary	Post Secon- dary	Adult	Special Group	Secon- dary & Post- Secon- dary	Secon- dary & Adult	Secon- dary, Post- Secon- dary & Adult
Yes. . . .	62	79	14	14	10	4	7
No	76	59	125	125	128	135	132
Not Spec. . .	1	1	0	1	1	0	0

Table 6 indicates that many follow-ups focused on or described localities. Many of these studies, however, were actually conducted or financed by state agencies. Therefore, the data do not indicate how many of the efforts were locally conducted but rather, the geographical region with which the follow-up was concerned. The predominance of reports describing state-wide data is directly attributable to the

reporting requirements of State and Federal legislation and the difficulty inherent in identifying and securing materials from local agencies.

Table 6
Geographic Regions Described By
Follow-Up Reports (n=139)

Locality	State	Other Region or Nation	Combination	Not Specified
52	68	13	3	3

Although the review of follow-up reports was structured so that reports of follow-up of former vocational students would be reviewed first, follow-up reports from other curriculums were reviewed as time permitted. Six of the reports included in Table 7 concerned the follow-up of former students from curricula other than Vocational Education. Twenty-five reports were found which described follow-up efforts that crossed traditional curriculum lines. Seven reports did not specify the population of concern.

Table 7
Curriculum in Which Follow-Up Subjects
Had Been Enrolled (n=139)

Vocational Education	Curriculum Other Than Vocational Education	Vocational Education and Other Curricula	Not Specified
101	6	25	7

Table 8 indicates that in the majority of cases students were the primary source of follow-up information. It should be noted that numerous reports indicated information was sought from other sources

if the former student could not be contacted. Those sources included former teachers, parents, guardians, or close relatives. Table 8 summarizes only those sources described as the primary source of data. The extent to which secondary sources were used is not known.

Table 8
Primary Source of Follow-Up Information (n=139)

Students Only	Employers Only	Both Students and Employers	Sources Other Than Student and Employers
104	13	20	2

Program completers were the most frequent subjects of follow-up according to Table 9. However, fifty-one efforts followed-up both program completers and non-completers. This may reflect reporting requirements specified in recent legislation. In several cases the category "Special Groups" overlaps the other categories. Generally this overlap occurred with "Program Non-Completers." Examples of the Special Groups are: disadvantaged, unemployed, physically and mentally handicapped, non-returning students, parents or former inmates. Since it was possible for each study to be concerned with more than one category or subject, every study is included in each column of Table 9.

Table 9
Program Completion Status of
Follow-Up Subjects (n=139)

	Program Completers	Program Non-Completers	Both Program Completers and Non-Completers	Special Groups
Yes.	121	57	51	12
No	16	78	85	125
Not Spec. . . .	2	0	3	2

Because it was assumed that many of the follow-up reports would be part of an effort to meet Federal reporting requirements, the categories for reporting data about former students required by the Federal reporting forms were used to construct Table 10. Every study reviewed is included under each category. No attempt was made to identify the number of studies which reported data on former students in more than one category.

Table 10

Employment Status of Follow-Up Subjects
for Which Data are Reported

	Full Time Employed	Part Time Employed	Un- employed	Con- tinuing Educ.	In Military Service	Other
Yes. . . .	104	81	88	80	67	72
No	18	41	34	42	55	50
Not Spec. . .	17	17	17	17	17	17

As reflected by Table 11, fewer than half of the documents reviewed reported data in a manner that made it readily identifiable with a specific program.

Table 11

Data Reported by Specific Programs (n=139)

Data Reported by Specific Programs	Data Not Reported by Specific Programs
68	71

An effort was made to determine the lowest level at which data could have been or were reported. Table 12 indicates that most

follow-up efforts appear to have the capability of reporting data at the school district level or lower. Thirteen studies could report data by individual teachers or courses. In eleven cases it was impossible to identify a meaningful level of aggregation. This occurred most frequently when the follow-up focused on a special group or had as a primary objective investigation of some research question.

Table 12

Lowest Apparent Level of Data Aggregation (n=139)

Teacher	Course	Pro- gram	School	School District	Region	State	Nation	Could not be Deter- mined
3	10	32	34	6	5	31	7	11

Approximately ten percent of the follow-up efforts included in Table 13 made some attempt to investigate differences between respondents and non-respondents. Several reports indicated that an effort was made to encourage non-respondents to reply. However, such a procedure was not considered to be a follow-up of non-respondents but rather a prompt to elicit response. In order to be classified as having made a non-respondent data collection effort, some special attempt must have been made to collect data from those who had not responded after all planned attempts at data collection were complete. Moreover, data obtained from those classified as non-respondents had to have been reported separately from that of initial respondents and some attempt made to compare initial respondents with non-respondents.

Table 13

Non-Respondent Data Collection Efforts (n=139)

Non-Respondent Data Collected	No Effort Made	Unable to Determine
14	109	16

Characteristics of student follow-up - The summary information presented in Tables 14 through 25 describe student follow-up efforts. Of the 139 reports reviewed, 126 were concerned with either the follow-up of students only or both students and their employers. The thirteen reports of efforts which followed-up employers only are not included in this section.

Table 14 indicates that 82 of the 126 reports of student follow-up describe a census. That is, an attempt was made to contact every former student in the study population. Slightly more than one-third of the efforts utilized some type of sampling technique. In six instances a combination of census and sampling techniques was used. An example of such an approach is the practice of collecting data from all former students in several service areas while collecting data from samples in the remaining service areas. Another study of this type collected data from the entire population (census) and then selected a sample from that census to determine the extent to which the two sets of data agreed.

Table 14

Nature of Student Follow-Up Efforts (n=126)

Census	Sample	Both Census and Sample	Not Specified
82	36	6	2

The rate of return obtained by student follow-up efforts was not always explicitly reported. An attempt was made to either collect that information or compute the return rate based upon the information available. Table 15 summarizes the reported and computed return rates. The median return rate for the 95 reports on which information was available was 60.3 percent. Ten studies reported return rates higher than 90 percent and five of those reported a 100 percent return. Only two studies were found to have return rates of less than 20 percent, the lowest being an 8 percent return.

Table 15

Percentage Return Rate for Student Follow-Up Efforts (n=126)

Up to 25	26 to 50	51 to 75	76 to 100	Impossible to Determine
7	25	34	29	31

The extent to which incentives were used is displayed in Table 16. Less than ten percent of the reports indicated that incentives had been used in an attempt to elicit returns. The types of incentives used varied widely with some efforts using more than one type. Examples of incentives that have been used are: money, packets of instant coffee, pencils, keychains, birthday cards and raffle chances. A wildlife stamp on the return envelope, personal signatures on cover letters and the printing of questionnaires on colored paper are techniques that have also been employed. One study was identified which compared the difference in return rates using incentives of 25 cents and 50 cents. As might be expected, the larger incentive resulted in a larger return. Eight reports implied the use of incentives but no evidence could be found that they had actually been used.

Table 16

Use of Incentives in Student Follow-Up (n=126)

Incentives Used	Incentives Not Used	Not Specified
9	109	8

The most popular data collection method used during the follow-up of former students was the mail-out questionnaire. Table 17 indicates that this is true for second and third attempts to collect data as well as the initial attempt.

Table 17

Methods Used to Collect Student Follow-Up Data (n=126)

	Q	TI	PI	QTI	QPI	TPI	QTPI	NS	NA
First Attempt	93	5	12	1	5	1	1	8	0
Second Attempt	56	6	1	2	0	0	1	22	38
Third Attempt	25	14	2	0	0	0	0	22	63

Key

Q-Questionnaire

TI-Telephone Interview

PI-Personal Interview

QTI-Questionnaire and Telephone Interview

QPI-Questionnaire and Personal Interview

TPI-Telephone and Personal Interview

QTPI-Questionnaire and Telephone and Personal Interview

NS-Not Specified

NA-No Attempt was Made

The personal interview was found to be the second most popular method of data collection in the second attempt to contact subjects.

Telephone interviews were used more frequently in the second and third

attempts to collect information than the initial effort. Approximately one third of the studies reviewed indicated that no attempt was made to collect data from those subjects not responding to the initial data collection effort. Only 41 of the reports indicated that at least three attempts were made to collect data. It should be noted that in order for a procedure to be classified as an attempt to collect data, some effort had to have been made to actually gather data, for example, a telephone call to encourage the return of a questionnaire would not have been classified as an attempt to collect data but as a prompt.

The amount of time allowed to elapse between data collection attempts varied widely. As shown in Table 18, two to three weeks were generally allowed to pass before a second contact was attempted. However, over one third of the reports reviewed indicated that ten or fewer days elapsed between the second and third attempts. The median number of days allowed to elapse between data collection attempts was 21. In some cases an unusual length of time appears to have elapsed. However, in most of those instances a prompt or series of prompts were used between attempts in an effort to encourage a response. An example of such a technique is: a mail-out questionnaire followed by a telephone prompt after 21 days with a second questionnaire being mailed 21 days after the telephone prompt.

Table 18

Number of Days Between Attempts to
Collect Student Data (n=126)

	4-10	11-17	18-24	25-31	32-38	39-45	Not Specified	No Attempt
Between 1st & 2nd Attempts	0	12	15	7	1	5	48	38
Between 2nd & 3rd Attempts	6	2	8	2	1	2	42	63

Approximately 60 percent of the student follow-up reports indicated that some type of prompt had been used to encourage response. As classified in Table 14, a prompt is a reminder or other attempt to encourage response to a previous data collection effort or to gain cooperation but not actually collect data. The category "Letter With New Questionnaire" does not fit this definition completely. However, it was felt important to separate instances in which only a letter was used from those in which a letter with a new questionnaire was used. A majority of those choosing to use prompts, used a combination of prompts. While letters were the most popular single prompt, letters or cards in combination with telephone calls were also used.

Table 19
Types of Prompts Used to Elicit Response (n=126)

Letter	Card	Telephone Call	Letter With New Questionnaire	Combination of Prompts	Not Specified or Unclear	None Was Used
13	9	6	2	18	3	75

Table 20 substantiates the generally accepted notion that most follow-up efforts collect the information necessary to contact former students from program enrollment records. Over 70 percent of the reports that indicated when a student's address or telephone number was obtained, specified that it was secured while the student was still enrolled in the program. In four cases address information was collected both during and after the program. The address information collected after program exit was an attempt to up-date the addresses of students who had exited the program several years earlier but were included in the follow-up effort as part of a cross-sectional design.

Table 20
When Student Contact Information
was Collected (n=126)

During Program	After Program	Both During and After Program	Not Specified
79	26	4	17

The information presented in Table 21 reflects the influence of Federal reporting requirements on the timing of student follow-up. Seventeen studies were identified in which students were followed-up three or fewer months after the program completion or exit. Over 70 percent of the reports that specified when the first contact was attempted indicated that it was within one year of program exit.

Table 21
Time in Months Between Program Completion or
Exit and First Contact Attempt (n=126)

1-6	7-12	13-18	19-24	31-36	37-42	43-48	55-60	Not Spec.
30	32	3	9	5	1	2	3	41

The small number of longitudinal follow-up efforts being conducted is emphasized by Table 22. Less than ten percent of the studies identified were longitudinal in nature. A few additional studies were identified as being of a cross-sectional design.

Table 22

Longitudinal Student Follow-Up Efforts (n=126)

Longitudinal Effort	Not Longitudinal	Not Specified
7	114	5

Table 23 indicates that follow-up information was collected directly from former students in the majority of instances. Parents, educational supervisory personnel, file data, and "reliable individuals" comprised the category "Other". Those efforts which utilized a combination of sources attempted to collect data from teachers, parents, guardians, or a close relative whenever the former student could not be contacted.

Table 23

Source of Student Follow-Up Information (n=126)

Student	Teacher	Other	Combination of Sources	Not Specified
102	3	3	16	2

The extent to which the costs associated with a student follow-up are reported is depicted in Table 24. Costs were reported in two basic formats, total cost and cost per student. Total cost reported ranged from \$150, for limited specialized follow-up, to approximately 20,000 dollars for a state-wide system. One state reported an average cost per student of 90 cents to \$1.06 at the local level. Exactly how costs were determined is often unclear. However major cost factors usually considered included clerical assistance, postage, supplies, and some data processing.

Table 24
Student Follow-Ups Reporting Costs (n=126)

Cost Reported	Cost Not Reported
8	118

The individual who prepares the report of student follow-up is not always a member of the agency responsible for collecting the data. Local schools are most often responsible for actual collection of the data. State Departments of Education (SDE) are the agency next most likely to be responsible for data collection. Of the 126 reports reviewed, local schools were responsible for data collection in 48 cases. SDEs collected data in 22 instances. Of the remaining 51 reports specifying who was responsible for data collection, contractors and school districts were most often identified as being responsible. This reflects the extent to which follow-up systems tend to be based on a local rather than a central data collection model.

Characteristics of employer follow-up - A limited number of employer follow-up efforts was identified during this review. Tables 25 through 33 describe the characteristics of those 29 studies as specified in the reports.

The extent to which employer follow-up efforts sought information from all employers (census) versus a sample of employers is depicted in Table 28. The majority of employer follow-up efforts contacted all employers of former students and were classified as a census. In a number of cases only the employers of former students meeting specific criteria, such as employed full-time, were contacted. These efforts were still classified as a census because all employers of former students meeting the criteria were contacted and a statistical sampling procedure was not used. In four cases it could not be determined from available information whether the survey was a census or if a sample had been used.

Table 25
Nature of Employer Follow-Up (n=29)

Census	Sample	Not Specified
22	3	4

Eleven of the 29 reports indicated some factor had been used to determine which employers to contact. Three reports indicated that only those employers of former students who were working in occupations related to their training were contacted. Seven cases were identified in which the former student's permission to contact their employer was a factor in the selection of the employer sample. One report indicated that an employer was contacted only if the former student gave permission and was employed full-time. Only one of the seven efforts reporting that student permission was a factor in determining who would be contacted was conducted before 1975. Permission to contact employers can be expected to become more important in light of recent restrictions on the collection and use of information.

The rate of return obtained in employer follow-up efforts was considerably higher than for student follow-up efforts, the median return rate being 70 percent. Table 26 indicates that only three of the nineteen studies for which a return rate could be determined obtained less than a 50 percent return. Two studies were found to report return rates of 100 percent and seven reported returns of 80 percent or higher. The lowest return rate reported for an employer follow-up was 11 percent. Ten reports did not provide sufficient data to allow the calculation of a rate of return.

Table 26
 Percentage Return Rate for Employer
 Follow-Up Efforts (n=29)

0 to 25	26 to 50	51 to 75	76 to 100	Impossible to Determine
1	2	9	7	10

While the use of incentives to elicit returns was not wide-spread in student follow-up efforts, no cases of their use in employer follow-up efforts could be identified. In six instances it was not specified whether or not incentives had been used.

The most common source of the employer's mailing address was the former student. A combination of sources such as teachers or parents were sometimes utilized if information could not be obtained from the former student. In three cases the primary source of the employer's address was an individual other than the former student, a teacher, or parent. In two of those instances addresses were gathered from agencies former students had used to obtain employment.

Table 27 shows that the mail-out questionnaire was the method used most often to collect data from employers. This method was also used most frequently during second or third attempts to collect data from employers not responding to the initial contact. While second attempts to collect information were made in approximately 70 percent of the student follow-up efforts, second attempts at data collection were made in few than 50 percent of the employer follow-up efforts. Third attempts to collect data were made in less than 20 percent of the employer follow-up studies reviewed.

Table 27

Methods Used to Collect Employer
Follow-Up Data (n=29)

	Q	TI	PI	QTI	NS	NA
First Attempt	18	4	3	1	3	0
Second Attempt	5	2	1	0	6	15
Third Attempt	3	1	0	0	6	19

Key

Q-Questionnaire

NS-Not Specified

TI-Telephone Interview

NA-No Attempt Made

PI-Personal Interview

QTI-Questionnaire and Telephone Interview

The amount of time allowed to elapse before making a second or third data collection attempt was generally less than three weeks. However, as Table 28 indicates, in the majority of cases either no second or third attempt was made or the number of days between attempts was not specified. In several instances where a seemingly long period was allowed to elapse, prompts were used between actual data collection attempts.

Table 28

Number of Days Elapsed Between Attempts to
Collect Employer Data (n=29)

	10	14	17	21	45	Not Spec.	No Attempt
Before 2nd Attempt	0	2	1	1	1	9	15
Before 3rd Attempt	1	1	0	1	0		19

Table 29 summarizes the use of prompts in employer follow-up efforts. Only six instances of the use of prompts to encourage the cooperation of employers in providing data could be documented. A card or telephone call was used in five cases.

Table 29
Types of Prompts Used to Elicit Response (n=29)

Letter	Card	Telephone Call	Not Spec. or Unclear	None Used
1	3	2	5	18

No longitudinal employer follow-up efforts were found among those reviewed. However, several system manuals or guides were found that proposed employer follow-up in longitudinal student follow-up efforts. None of the reports of employer follow-up provided cost data.

Summary - The review of available literature resulted in the discovery of 139 documents published after 1969 which could be classified as reports of follow-up studies. Of these, 126 described efforts focusing on the follow-up of students or both students and their employers. Twenty-nine reports were identified which were concerned with the follow-up of employers. Most of the follow-up efforts sought to obtain information about former students of secondary or post-secondary programs.

Evaluation was the most commonly stated or implied objective for conducting follow-up. Financial support for the majority of the follow-up efforts was provided by a state agency. Most often the data reported were focused primarily at the state level. Additionally, although localities were often responsible for collecting student data, the reports were most often prepared by other individuals. These facts suggest that compliance with the federal and state reporting requirements was a major but not generally stated, objective of many efforts.

The majority of student follow-ups used a census approach, that is, an attempt was made to contact every former student. The same held true for employer follow-up although in many instances only the employers of students in specific categories were contacted. The mail-out questionnaire was the most common method of collecting data from both former students and their employers. Although the use of prompts and incentives was less common in the follow-up of employers than of former students, employer follow-up efforts generally reported higher return rates.

Several shortcomings were found to exist in the majority of studies reviewed. Only eight follow-up reports were found to include information about the cost of conducting the study. Longitudinal follow-up efforts are rare. Data regarding non-respondents is generally not available nor sought. Information describing the exact procedure used to collect data and who was contacted are often incomplete. Although it is expected that many localities conduct some type of follow-ups, little information about these efforts is readily available.

Specific Characteristics of Reviewed Studies

Tables 30 and 31 present a detailed summary of selected characteristics of the follow-up studies reviewed. Each study's bibliographic reference number is listed at the top. The specific characteristics of any particular follow-up study are indicated by the "X"s below the reference number. It is thus possible to identify major characteristics of a particular referenced study or to identify all studies which had a particular characteristic. In a number of cases, it was impossible to determine all characteristics of a given study from the information provided. Classification in some cases was based on the judgement of the reviewer.

TABLE 30
STUDENT FOLLOW-UP CHARACTERISTICS

CHARACTERISTICS	REFERENCE											
	1	6	7	9	11	14	15	16	17	18	19	20
I. LEVEL												
A. SECONDARY	X	X			X	X						X
B. POST SECONDARY						X	X	X		X	X	
C. ADULT												
D. SPECIAL GROUPS			X	X	X	X						
II. STATUS												
A. COMPLETION		X		X	X	X	X		X		X	X
B. NONCOMPLETION						X		X				
III. METHOD												
A. QUESTIONNAIRE	X			X	X		X	X	X		X	X
B. TELEPHONE INTERVIEW											X	
C. INTERVIEW			X		X	X						
D. OTHER												
IV. HOW												
A. CENSUS		X					X	X	X	X	X	X
B. SAMPLE	X			X	X	X						
V. WHEN												
A. WITHIN ONE YEAR	X		X				X	X			X	
B. AFTER ONE YEAR				X								
VI. OBJECTIVES												
A. COMPLIANCE/REPORTING											X	
B. PLANNING					X		X	X	X	X		
C. EVALUATION	X	X		X		X	X	X	X			
D. OTHER			X									
VII. NONRESPONSE ANALYSIS												
VIII. PROMPTS/INCENTIVES	X		X					X				
IX. LONGITUDINAL STUDY												
X. COST DATA RECORDED												

TABLE 30
STUDENT FOLLOW-UP CHARACTERISTICS

CHARACTERISTICS	REFERENCE											
	21	22	24	25	26	30	31	33	35	37	38	39
I. LEVEL												
A. SECONDARY	X	X			X	X	X		X	X		X
B. POST SECONDARY			X				X	X				
C. ADULT							X				X	
D. SPECIAL GROUPS				X								
II. STATUS	X	X	X	X	X	X	X	X	X	X	X	X
A. COMPLETION					X		X	X				
B. NONCOMPLETION												
III. METHOD												
A. QUESTIONNAIRE		X	X		X		X	X	X		X	X
B. TELEPHONE INTERVIEW			X		X	X		X			X	
C. INTERVIEW	X			X				X			X	
D. OTHER												
IV. HOW												
A. CENSUS		X	X				X	X			X	X
B. SAMPLE	X			X	X	X	X		X	X		X
V. WHEN												
A. WITHIN ONE YEAR		X	X		X		X		X			X
B. AFTER ONE YEAR	X		X						X	X	X	
VI. OBJECTIVES												
A. COMPLIANCE/REPORTING					X		X					X
B. PLANNING		X	X	X	X	X	X	X		X		X
C. EVALUATION		X	X	X	X	X	X	X	X	X	X	X
D. OTHER	X					X	X					
VII. NONRESPONSE ANALYSIS												
VIII. PROMPTS/INCENTIVES				X	X		X				X	
IX. LONGITUDINAL STUDY												
X. COST DATA RECORDED					X							

TABLE 30
STUDENT FOLLOW-UP CHARACTERISTICS

CHARACTERISTICS	REFERENCE										
	40	42	43	44	46	52	53	54	56	60	62
I. LEVEL											
A. SECONDARY	X		X	X		X				X	
B. POST SECONDARY		X					X	X	X		X
C. ADULT	X										
D. SPECIAL GROUPS					X						
II. STATUS											
A. COMPLETION	X	X	X	X		X	X	X	X	X	X
B. NONCOMPLETION		X		X		X				X	
III. METHOD											
A. QUESTIONNAIRE	X	X	X	X		X	X	X	X		
B. TELEPHONE INTERVIEW											
C. INTERVIEW					X					X	
D. OTHER			X								
IV. HOW											
A. CENSUS	X	X	X	X	X	X	X	X	X		
B. SAMPLE	X									X	X
V. WHEN											
A. WITHIN ONE YEAR	X	X		X	X		X	X			
B. AFTER ONE YEAR			X			X	X	X			X
VI. OBJECTIVES											
A. COMPLIANCE/REPORTING	X					X					
B. PLANNING	X	X		X			X	X	X		
C. EVALUATION		X	X	X		X	X	X	X	X	X
D. OTHER			X		X		X	X	X		X
VII. NONRESPONSE ANALYSIS					X						
VIII. PROMPTS/INCENTIVES			X								
IX. LONGITUDINAL STUDY						X					
X. COST DATA RECORDED						X					

TABLE 30

STUDENT FOLLOW-UP CHARACTERISTICS

CHARACTERISTICS	REFERENCE											
	66	67	68	70	73	74	75	77	78	79	80	
I. LEVEL												
A. SECONDARY			X	X	X							
B. POST SECONDARY	X	X					X	X	X	X	X	
C. ADULT						X						
D. SPECIAL GROUPS						X						
II. STATUS												
A. COMPLETION	X		X	X	X		X	X	X	X	X	
B. NONCOMPLETION		X			X		X		X	X	X	
III. METHOD												
A. QUESTIONNAIRE	X	X			X		X	X	X	X	X	
B. TELEPHONE INTERVIEW		X			X		X				X	
C. INTERVIEW						X		X	X			
D. OTHER												
IV. HOW												
A. CENSUS	X	X			X	X	X	X				
B. SAMPLE			X		X				X	X	X	
V. WHEN												
A. WITHIN ONE YEAR					X			X				
B. AFTER ONE YEAR	X	X		X	X			X		X		
VI. OBJECTIVES												
A. COMPLIANCE/REPORTING									X			
B. PLANNING	X	X				X	X	X				
C. EVALUATION	X			X	X		X	X	X			
D. OTHER	X		X	X		X	X			X	X	
VII. NONRESPONSE ANALYSIS				X			X			X		
VIII. PROMPTS/INCENTIVES		X			X	X	X		X	X	X	
IX. LONGITUDINAL STUDY			X									
X. COST DATA RECORDED		X										

TABLE 30
STUDENT FOLLOW-UP CHARACTERISTICS

CHARACTERISTICS	REFERENCE										
	81	83	86	89	95	96	97	98	100	103	106
I. LEVEL											
A. SECONDARY			X		X	X	X	X	X	X	
B. POST SECONDARY		X		X	X						X
C. ADULT	X										
D. SPECIAL GROUPS		X									
II. STATUS	X	X	X	X	X	X	X	X	X	X	X
A. COMPLETION	X	X		X	X	X	X	X	X	X	
B. NONCOMPLETION											
III. METHOD											
A. QUESTIONNAIRE	X		X	X	X	X	X	X	X	X	X
B. TELEPHONE INTERVIEW			X			X	X	X	X	X	
C. INTERVIEW	X	X							X		
D. OTHER											
IV. HOW											
A. CENSUS	X		X		X	X	X	X	X	X	X
B. SAMPLE		X		X							
V. WHEN											
A. WITHIN ONE YEAR			X	X	X	X	X	X		X	X
B. AFTER ONE YEAR								X	X		X
VI. OBJECTIVES											
A. COMPLIANCE/REPORTING						X	X			X	
B. PLANNING	X		X	X	X	X	X	X		X	
C. EVALUATION	X		X	X	X	X	X	X			X
D. OTHER		X	X						X	X	
VII. NONRESPONSE ANALYSIS			X								
VIII. PROMPTS/INCENTIVES			X	X		X	X		X	X	
IX. LONGITUDINAL STUDY			X								
X. COST DATA RECORDED				X							

TABLE 30
STUDENT FOLLOW-UP CHARACTERISTICS

CHARACTERISTICS	REFERENCE											
	107	108	109	112	114	117	118	120	121	122	124	
I. LEVEL												
A. SECONDARY				X		X	X	X	X		X	
B. POST SECONDARY	X	X			X	X	X			X	X	
C. ADULT						X					X	
D. SPECIAL GROUPS			X									
II. STATUS												
A. COMPLETION	X		X		X	X	X	X	X	X	X	
B. NONCOMPLETION		X							X	X		
III. METHOD												
A. QUESTIONNAIRE	X	X	X	X	X	X	X	X	X	X	X	
B. TELEPHONE INTERVIEW		X		X	X		X		X			
C. INTERVIEW									X			
D. OTHER												
IV. HOW												
A. CENSUS	X	X	X	X	X	X				X		
B. SAMPLE								X	X		X	
V. WHEN												
A. WITHIN ONE YEAR				X		X	X		X			
B. AFTER ONE YEAR								X	X		X	
VI. OBJECTIVES												
A. COMPLIANCE/REPORTING						X	X			X		
B. PLANNING		X	X	X	X		X			X		
C. EVALUATION		X	X	X	X		X	X	X	X	X	
D. OTHER	X			X					X			
VII. NONRESPONSE ANALYSIS					X						X	
VIII. PROMPTS/INCENTIVES	X			X						X	X	
IX. LONGITUDINAL STUDY				X						X		
X. COST DATA RECORDED												

TABLE 30
STUDENT FOLLOW-UP CHARACTERISTICS

CHARACTERISTICS	REFERENCE											
	125	126	127	128	133	134	137	144	145	147	148	149
I. LEVEL												
A. SECONDARY	X			X	X	X	X		X	X	X	X
B. POST SECONDARY		X	X	X			X		X			X
C. ADULT								X				X
D. SPECIAL GROUPS	X											
II. STATUS												
A. COMPLETION		X		X	X	X	X	X	X	X	X	X
B. NONCOMPLETION			X	X							X	
III. METHOD												
A. QUESTIONNAIRE	X	X	X	X	X	X	X	X		X		X
B. TELEPHONE INTERVIEW		X				X	X					X
C. INTERVIEW	X											
D. OTHER												
IV. HOW												
A. CENSUS	X	X		X	X	X	X		X		X	X
B. SAMPLE			X					X		X		
V. WHEN												
A. WITHIN ONE YEAR		X				X				X		X
B. AFTER ONE YEAR	X		X	X			X					
VI. OBJECTIVES												
A. COMPLIANCE/REPORTING					X	X						X
B. PLANNING			X	X		X	X			X		X
C. EVALUATION			X	X		X	X	X	X	X		X
D. OTHER	X										X	
VII. NONRESPONSE ANALYSIS												
VIII. PROMPTS/INCENTIVES		X	X			X	X	X				X
IX. LONGITUDINAL STUDY												X
X. COST DATA RECORDED												

TABLE 30
STUDENT FOLLOW-UP CHARACTERISTICS

CHARACTERISTICS	REFERENCE										
	150	151	152	154	155	156	157	161	164	165	166
I. LEVEL											
A. SECONDARY							X	X	X	X	X
B. POST SECONDARY	X	X	X	X	X		X				
C. ADULT							X		X	X	
D. SPECIAL GROUPS						X					
II. STATUS											
A. COMPLETION	X	X	X	X	X	X	X	X	X	X	
B. NONCOMPLETION	X	X				X	X		X		X
III. METHOD											
A. QUESTIONNAIRE	X	X	X	X	X		X	X	X	X	X
B. TELEPHONE INTERVIEW											
C. INTERVIEW	X					X					
D. OTHER											
IV. HOW											
A. CENSUS			X	X	X		X	X	X	X	
B. SAMPLE	X	X				X					X
V. WHEN											
A. WITHIN ONE YEAR				X	X	X	X		X	X	
B. AFTER ONE YEAR	X	X	X		X						
VI. OBJECTIVES											
A. COMPLIANCE/REPORTING			X		X		X	X	X	X	
B. PLANNING				X	X	X	X		X	X	X
C. EVALUATION			X	X	X	X	X		X	X	X
D. OTHER	X	X									
VII. NONRESPONSE ANALYSIS							X			X	
VIII. PROMPTS/INCENTIVES		X	X	X			X		X	X	
IX. LONGITUDINAL STUDY											
X. COST DATA RECORDED							X				

TABLE 30
STUDENT FOLLOW-UP CHARACTERISTICS

CHARACTERISTICS	REFERENCE									
	170	172	174	175	176	177	178	179	185	187
I. LEVEL										
A. SECONDARY			X	X	X		X			X
B. POST SECONDARY	X	X				X		X		
C. ADULT										
D. SPECIAL GROUPS									X	
II. STATUS										
A. COMPLETION	X	X	X	X	X	X	X	X	X	X
B. NONCOMPLETION	X	X		X	X		X	X		
III. METHOD										
A. QUESTIONNAIRE	X	X	X	X		X	X	X	X	X
B. TELEPHONE INTERVIEW							X			
C. INTERVIEW			X		X					
D. OTHER										
IV. HOW										
A. CENSUS	X	X	X	X	X	X	X		X	
B. SAMPLE								X		
V. WHEN										
A. WITHIN ONE YEAR	X	X		X		X				
B. AFTER ONE YEAR			X		X		X	X		
VI. OBJECTIVES										
A. COMPLIANCE/REPORTING	X		X	X			X	X		
B. PLANNING	X	X	X	X			X			
C. EVALUATION	X	X		X		X	X	X	X	
D. OTHER		X	X	X	X			X	X	
VII. NONRESPONSE ANALYSIS				X	X					
VIII. PROMPTS/INCENTIVES	X			X				X		
IX. LONGITUDINAL STUDY				X						
X. COST DATA RECORDED									X	

TABLE 30
STUDENT FOLLOW-UP CHARACTERISTICS

CHARACTERISTICS	REFERENCE									
	183	190	191	193	194	198	201	202	203	204
I. LEVEL										
A. SECONDARY			X	X	X		X		X	X
B. POST SECONDARY	X	X	X	X		X	X	X	X	X
C. ADULT				X			X			
D. SPECIAL GROUPS										
II. STATUS										
A. COMPLETION	X	X	X	X	X	X	X	X	X	X
B. NONCOMPLETION					X					
III. METHOD										
A. QUESTIONNAIRE	X	X	X	X	X	X		X	X	X
B. TELEPHONE INTERVIEW				X					X	
C. INTERVIEW										
D. OTHER										
IV. HOW										
A. CENSUS	X	X		X		X			X	X
B. SAMPLE					X			X		
V. WHEN										
A. WITHIN ONE YEAR		X	X	X	X	X	X			
B. AFTER ONE YEAR	X	X		X						X
VI. OBJECTIVES										
A. COMPLIANCE/REPORTING				X		X	X			X
B. PLANNING	X	X		X	X	X		X	X	
C. EVALUATION	X	X		X	X	X		X	X	
D. OTHER			X						X	
VII. NONRESPONSE ANALYSIS					X					
VIII. PROMPTS/INCENTIVES			X	X	X					
IX. LONGITUDINAL STUDY				X						
X. COST DATA RECORDED										

TABLE 30
STUDENT FOLLOW-UP CHARACTERISTICS

CHARACTERISTICS	REFERENCE										
	209	210	211	212	213	215	218	220	224	225	
I. LEVEL											
A. SECONDARY								X	X	X	
B. POST SECONDARY	X	X	X	X	X	X	X				
C. ADULT											
D. SPECIAL GROUPS						X					
II. STATUS											
A. COMPLETION				X	X		X	X	X	X	
B. NONCOMPLETION	X	X	X				X		X	X	
III. METHOD											
A. QUESTIONNAIRE	X	X	X	X	X	X	X		X	X	
B. TELEPHONE INTERVIEW											
C. INTERVIEW											
D. OTHER											
IV. HOW											
A. CENSUS	X	X	X	X	X	X	X		X	X	
B. SAMPLE									X	X	
V. WHEN											
A. WITHIN ONE YEAR		X						X	X	X	
B. AFTER ONE YEAR							X				
VI. OBJECTIVES											
A. COMPLIANCE/REPORTING	X	X	X	X	X	X		X		X	
B. PLANNING		X	X	X	X	X	X		X	X	
C. EVALUATION		X	X	X	X	X	X		X	X	
D. OTHER											
VII. NONRESPONSE ANALYSIS							X				
VIII. PROMPTS/INCENTIVES									X		
IX. LONGITUDINAL STUDY											
X. COST DATA RECORDED											

TABLE 30
STUDENT FOLLOW-UP CHARACTERISTICS

CHARACTERISTICS	REFERENCE														
	229	231	232	234	236	28	131								
I. LEVEL															
A. SECONDARY			X				X								
B. POST SECONDARY	X	X	X	X											
C. ADULT			X												
D. SPECIAL GROUPS			X		X	X									
II. STATUS															
A. COMPLETION	X	X	X	X	X	X	X								
B. NONCOMPLETION		X		X		X									
III. METHOD															
A. QUESTIONNAIRE	X	X	X	X		X	X								
B. TELEPHONE INTERVIEW		X	X			X									
C. INTERVIEW			X		X										
D. OTHER															
IV. HOW															
A. CENSUS	X	X	X	X		X	X								
B. SAMPLE					X										
V. WHEN															
A. WITHIN ONE YEAR		X	X	X											
B. AFTER ONE YEAR	X														
VI. OBJECTIVES															
A. COMPLIANCE/REPORTING	X		X			X									
B. PLANNING	X			X	X	X	X								
C. EVALUATION	X	X			X	X	X								
D. OTHER				X											
VII. NONRESPONSE ANALYSIS															
VIII. PROMPTS/INCENTIVES	X	X			X	X									
IX. LONGITUDINAL STUDY															
X. COST DATA RECORDED															

Review of Follow-up Instruments

Previous sections have provided a descriptive summary of methodological elements in both follow-up reports and manuals. While the primary focus of the review is follow-up methodology, what data are being collected is often of interest to developers of follow-up systems.

Many of the reports and manuals reviewed by the project included the actual data collection instruments. Those instruments which seemed most relevant to the present study were reviewed and are summarized in the tables which follow. The basic organizational structure for the tables is adapted from Pucel (170). Since specific data items within data elements varied among instruments, the tables summarize only the more common data elements. Also, questions asked about specific school services, job changes, specific work habits of the employee and the like were too numerous or situation specific to be tabled.

Overview of instruments - The instruments reviewed were fairly consistant in terms of data elements included. This was especially true in the case of employer follow-up instruments. A few elements were conspicuous either because of their almost universal inclusion or their widespread omission. The number and percent of the reviewed instruments which included one or more questions within each of the data elements tabled are listed in Tables 32 and 33.

Detailed review - Tables 34 and 35 present a summary of the data elements included in each of the instruments reviewed. Each instrument's bibliographic reference number is listed at the top. A "X" is located in the column beneath a particular instrument for each of the selected data elements determined to be included in that instrument by the review procedures. A particular data element was indicated if an instrument contained one or more items related to that element. In some cases, reviewer judgement was necessary to classify items under one of the selected data element titles.

The layout of Tables 34 and 35 is such that the selected data elements included in a particular instrument may be identified. Also, all reviewed instruments which included a particular data element may be located.

Table 32

Number and Percent of the Student Follow-Up Instruments
Reviewed Which Included Questions on Selected Data Elements
N=56

Data Elements	No.	Percent
Additional Education/Training Since Program	38	68
Employed/Unemployed/Unavailable for Employment	53	95
Job Title/Duties	40	71
Present Employer/Address/Supervisor	32	57
Why Unavailable or Unemployed	25	45
Relatedness of Job to Training Program	46	82
Reason for Unrelated Employment	17	30
Salary/Wages-Present Job	36	64
Present Job Full/Part Time	36	64
How was Job Obtained	27	48
Permission to Contact Employer	4	7
Number of Jobs Held and/or Employers' Names/Addresses	22	39
Length of Employment	10	18
Advancement	6	11
Address in Future	3	5
Satisfaction-Salary/Wages/Benefits	8	14
Overall Satisfaction with Job	13	23
Satisfaction with Specific Job Aspects	12	21
Overall Rating of Training	33	59
Rating of Curriculum	25	45
Rating of Facilities/Equipment	22	39
Rating of Instruction	26	46
Rating of School Services	25	45
Objective for Entering Program	7	13

Table 33

Number and Percent of the Employer Follow-Up Instruments
Reviewed Which Included Questions on Selected Data Elements
N=19

Data Elements*	No.	Percent
Quality of Work	16	84
Quantity of Work	14	74
Job Related Technical Knowledge	13	68
Job Skills	10	53
Operation of Tools and Equipment	11	59
Basic Academic Skills	11	59
Work Habits/Attitudes	8	42
Accept Responsibility	10	53
Punctuality	8	42
Supervision Required	10	53
Cooperation With Co-Workers	15	79
Willingness to Learn and Improve	14	74
Cooperate With Management	11	59
Compliance With Rules/Policies	8	42
Attendance	12	63
Overall Satisfactoriness	11	59
Promotability	4	21

*Data elements refer to the employer's rating of the employee on the characteristic.

Table 34
STUDENT FOLLOW-UP INSTRUMENTS

DATA ELEMENTS	REFERENCE												
	17	23	30	31	34	40	42	43	44	52	54	65	
I. EMPLOYMENT/ED. STATUS													
A. Additional Ed./Tng.	X	X	X	X					X	X	X	X	
B. Employment Status	X	X	X	X		X	X	X	X	X	X	X	
C. Job Title/Duties	X	X	X		X	X	X	X	X		X		
D. Employer/Supervisor Add.		X				X	X	X			X		
E. Why Unavailable/Unemployed		X	X				X	X		X			
F. Job Relatedness	X	X			X	X	X	X	X	X	X	X	
G. Why Unrelated Employment					X	X		X	X				
H. Present Salary/Wage	X	X			X	X	X		X	X	X	X	
I. Employed Full/Part Time		X	X	X		X		X	X	X		X	
J. How Job Obtained	X			X		X						X	
K. OK to Contact Employer													
II. WORK HISTORY													
A. No. of Jobs/Employers						X				X		X	
B. Length Employment										X			
C. Advancement							X						
III. JOB SATISFACTION													
A. Salary/Wages/Benefits									X				
B. Overall						X	X	X					
C. Specific Job Aspects								X	X				
IV. EVALUATION OF TNG. PROGRAM													
A. Overall Rating of Tng.	X	X			X	X		X		X		X	
B. Curriculum	X				X			X			X	X	
C. Facilities & Equipment				X	X	X		X		X			
D. Instruction				X	X	X	X			X			
E. School Services				X		X		X	X	X			
V. OTHER													
A. Objectives for Entering													
B. Address in Future													

Table 34
STUDENT FOLLOW-UP INSTRUMENTS

DATA ELEMENTS	REFERENCE											
	76	77	87	89	99	100	101	118	122	126	127	128
I. EMPLOYMENT/ED. STATUS												
A. Additional Ed./Tng.	X	X	X		X	X	X	X	X	X		X
B. Employment Status	X	X	X	X	X	X	X	X	X	X	X	X
C. Job Title/Duties	X	X	X	X	X	X	X	X	X		X	X
D. Employer/Supervisor Add.	X	X		X	X	X	X	X	X		X	X
E. Why Unavailable/Unemployed	X				X	X	X	X			X	
F. Job Relatedness	X	X	X	X	X	X	X			X	X	
G. Why Unrelated Employment		X	X						X			X
H. Present Salary/Wage	X		X	X	X	X	X	X		X	X	X
I. Employed Full/Part Time	X		X	X	X	X	X		X			X
J. How Job Obtained			X							X	X	
K. OK to Contact Employer							X					
II. WORK HISTORY												
A. No. of Jobs/Employers	X				X	X	X				X	X
B. Length Employment					X	X	X				X	
C. Advancement						X	X					
III. JOB SATISFACTION												
A. Salary/Wages/Benefits						X			X			
B. Overall						X	X				X	
C. Specific Job Aspects						X	X		X			
IV. EVALUATION OF TNG. PROGRAM												
A. Overall Rating of Tng.		X	X			X	X		X	X	X	X
B. Curriculum		X	X			X	X		X	X	X	
C. Facilities & Equipment		X				X			X		X	
D. Instruction		X		X		X	X		X	X	X	
E. School Services		X		X		X	X		X	X	X	
V. OTHER												
A. Objectives for Entering				X					X		X	
B. Address in Future										X		

Table 34
STUDENT FOLLOW-UP INSTRUMENTS

	REFERENCE											
DATA ELEMENTS	133	134	137	140	144	147	149	152	161	162	164	170
I. EMPLOYMENT/ED. STATUS												
A. Additional Ed. Tng.	X	X	X			X	X	X	X		X	X
B. Employment Status	X	X	X	X	X	X	X	X	X	X	X	X
C. Job Title/Duties			X	X	X	X		X			X	X
D. Employer/Supervisor Add.		X	X		X	X		X			X	X
E. Why Unavailable/Unemployed	X	X	X		X			X		X		X
F. Job Relatedness	X	X	X	X			X	X		X	X	X
G. Why Unrelated Employment			X					X				
H. Present Salary/Wage		X		X					X	X	X	X
I. Employed Full/Part Time				X		X		X	X			X
J. How Job Obtained		X	X	X	X	X		X	X		X	
K. OK to Contact Employer		X									X	
II. WORK HISTORY												
A. No. of Jobs/Employers	X	X						X			X	X
B. Length Employment	X					X						X
C. Advancement												X
III. JOB SATISFACTION												
A. Salary/Wages/Benefits									X			X
B. Overall			X									X
C. Specific Job Aspects			X						X			X
IV. EVALUATION OF TNG. PROGRAM												
A. Overall Rating of Tng.		X	X	X	X	X				X		X
B. Curriculum				X	X	X						X
C. Facilities & Equipment			X	X	X	X						X
D. Instruction	X		X	X		X						X
E. School Services			X	X	X	X						X
V. OTHER												
A. Objectives for Entering												
B. Address in Future												

Table 34
STUDENT FOLLOW-UP INSTRUMENTS

DATA ELEMENTS	REFERENCE											
	175	175	178	182	186	188	190	193	194	203	204	207
I. EMPLOYMENT/ED. STATUS												
A. Additional Ed. Tng.	X		X	X		X	X		X		X	
B. Employment Status	X	X	X	X	X	X	X	X	X		X	X
C. Job Title/Duties	X	X	X	X		X	X	X			X	X
D. Employer/Supervisor Add.	X		X			X	X	X		X	X	X
E. Why Unavailable/Unemployed	X				X	X		X			X	X
F. Job Relatedness	X		X	X		X	X	X	X	X	X	X
G. Why Unrelated Employment		X	X	X						X	X	
H. Present Salary/Wage				X	X	X			X	X	X	X
I. Employed Full/Part Time			X	X	X	X		X	X	X	X	X
J. How Job Obtained		X		X	X		X		X	X	X	
K. OK to Contact Employer												
II. WORK HISTORY												
A. No. of Jobs/Employers		X	X		X		X		X	X	X	
B. Length Employment			X				X					
C. Advancement							X				X	
III. JOB SATISFACTION												
A. Salary/Wages/Benefits											X	
B. Overall									X	X	X	
C. Specific Job Aspects											X	X
IV. EVALUATION OF TNG. PROGRAM												
A. Overall Rating of Tng.		X		X	X	X	X	X		X		X
B. Curriculum						X	X	X		X	X	X
C. Facilities & Equipment								X	X	X	X	
D. Instruction			X					X	X	X	X	
E. School Services			X	X				X	X			
V. OTHER												
A. Objectives for Entering									X			
B. Address in Future	X											

Table 34
STUDENT FOLLOW-UP INSTRUMENTS

DATA ELEMENTS	REFERENCE										
	214	217	218	226	229	231					
I. EMPLOYMENT/ED. STATUS											
A. Additional Ed. Tng.	X	X		X		X					
B. Employment Status	X	X		X	X	X					
C. Job Title/Duties	X		X		X						
D. Employer/Supervisor Add.			X		X						
E. Why Unavailable/Unemployed						X					
F. Job Relatedness	X	X	X	X	X	X					
G. Why Unrelated Employment	X				X						
H. Present Salary/Wage	X	X	X								
I. Employed Full/Part Time			X	X	X	X					
J. How Job Obtained		X	X	X	X						
K. Ok to Contact Employer			X								
II. WORK HISTORY											
A. No. of Jobs/Employers											
B. Length Employment			X								
C. Advancement											
III. JOB SATISFACTION											
A. Salary/Wages/Benefits		X	X								
B. Overall		X									
C. Specific Job Aspects		X	X								
IV. EVALUATION OF TNG. PROGRAM											
A. Overall Rating of Tng.	X	X	X								
B. Curriculum	X	X	X								
C. Facilities & Equipment		X	X		X						
D. Instruction		X	X		X						
E. School Services	X	X	X								
V. OTHER											
A. Objectives for Entering	X	X	X								
B. Address in Future											

Review of Goals and Objectives

It was assumed that the development of a system as complex as the follow-up of former students and their employers would begin with a careful derivation of goals. Many of the reports, guides and manuals reviewed in the present effort did not support that assumption. While certain general purposes may be inferred from the population surveyed and types of data collected, only a small percentage of the documents reviewed included a clear statement of goals or objectives. These have served as the primary information source for the following discussion.

Derivation of goals and objectives - Informal or non-systematized information processes have often developed within organizations to supply data needed for management decisions and legal compliance. One often finds that some data which are collected are not used, redundant data are collected and important data are unavailable when needed. The reliability of information collected through non-systematic procedures is generally unknown. A beginning point in the elimination of these and related problems is the development of system goals/objectives. Lightfield (131) summarizes two global approaches:

1. To decide on the outcome measure and then let the measures define the educational goals. The result of what may be judged as a backward process, is a convenient measure that seems relevant but which may not adequately reflect the goals.
2. A more desirable procedure is to first determine goals through committee deliberations, faculty and staff surveys, or other means and then seek to identify appropriate measures. A limitation of this second approach, however, is that if the goals are developed in the absence of considerations of what is measurable, they likely will be vague statements without measurable content.

Lightfield provides an excellent example of the application of the second approach in the design of a student follow-up system in higher education (122). The college wide goals of Mercer County Community College were interpreted through the development of indicators of goal attainment. These indicators in turn were used as the basis for development of follow-up survey items.

Pucel provides insight into what may seem obvious but apparently is often overlooked. "Therefore, in planning any information system one should start with those people who have to make decisions for action" (170, p. 8). He depicts the primary function of such a system as one of memory. What the system is to "remember" however, may develop informally or through more efficient planned procedures.

An example of a very systematic approach to the utilization of information users in the development of system characteristics/goals is Project Follow-Up which developed the Texas Student Follow-Up Management Information System (243). A DELPHI approach was used with a statewide group of raters. This approach resulted in the derivation of guiding parameters for each of the sub-systems in the total TEX-SIS system.

Several studies specified design criteria, intended outcomes of the follow-up system or both in lieu of system goals or objectives. A few studies used such criteria or system outcomes to add specificity to broadly stated goals or purposes. Two examples of such criteria are provided by the Student Accountability Model (SAM) of the California Community College System (64) and the Minnesota Secondary Assessment System (96). Selected excerpts from these sources are listed to illustrate this approach.

- System must provide necessary information for Vocational Education enrollment and follow-up forms with a high level of accuracy and on time. (64)
- System must provide pertinent evaluation and planning information to occupational administrators and faculty. (64)
- Provide information useful in assisting local school personnel in planning and evaluation. (96)

While it was originally assumed that stated objectives would define some product of the system and design criteria would define the characteristics of the system, such was not always the case.

Examples of goals and objectives - Both stated and implied goals and objectives of student and/or employer follow-up may be classified under one or more of six general headings: (1) compliance/reporting,

(2) evaluation/program improvement, (3) planning, (4) research, (5) evaluation/improvement of the follow-up itself, and (6) others. Data derived from the review of follow-up efforts indicate that the above order is compatible with the frequency with which these goals occur - compliance/reporting goals, often implied rather than stated, being the most common; evaluation/program improvement second, etc. The following are provided as representative examples of statements in current follow-up reports and manuals. The list is not exhaustive and the classification is admittedly judgemental. Few reports actually stated compliance/reporting goals but such could generally be inferred.

Compliance/Reporting

- To provide requisite data for completion of New Jersey HEGIS Form 302 as required by the Department of Higher Education, and other external reports (122)
- To provide information to fulfill placement-related USOE reporting requirements by the states (158)
- Provide valid and reliable "status" information about educational and employment activities of former students (96)

Evaluation/Program Improvement

- Obtain data related to student satisfaction with school services (44)
- To determine from the secondary program graduates their evaluation of the program curriculum, facilities and equipment, instruction, and placement assistance (147)
- To determine from the employers, their evaluation of the secondary student's quality and quantity of work and the student's skills and abilities in the occupations (147)
- To examine the perceptions of students in terms of their evaluation of courses and instructors both within the Division of Technology and outside the Division (53)

- Secure information to improve
 - a. Instruction content;
 - b. Teaching methods and teaching aids;
 - c. Criteria to place students in training programs;
 - d. Equipment and supplies; and
 - e. Management of institution (175)
- Evaluation of the effectiveness of Program in preparing Graduates for work in terms of their skills, knowledge and attitude (234)
- Provide data to the TEC institutions for local on going evaluation of the effectiveness of programs (89)
- Student success in finding significant employment consistent with their training (89)
- How do they evaluate aspects of their college experience such as instruction, curriculum, facilities, social activities, college environment, and counseling and placement services? (217)
- How do they evaluate their present employment in such matters as salary, nature of their work, relations with co-workers, and opportunity for growth? (217)
- To measure program outcomes by determining current employment status, past year employment, stability, wage levels and job satisfaction of those currently working (14)
- Determine if students felt training helped in level of employment (80)
- Determine if students are satisfied on current job and if they would go through program again (80)
- Gather and report one year follow-up information which can be used to describe the post-graduation activities of Minnesota post high school Area Vocational-Technical Institute full-time day program graduates (170)
- To collect information from the former students about their experiences at the college and about their assessments of the programs and services received (122)
- To determine the satisfaction of the former students with their present employment/educational situation (122)

- To provide information for product evaluation (e.g., percent of graduates placed on jobs, level of salaries and wages earned by graduated, percent who are satisfied on the job, etc.) (158)
- To provide comparable information on graduates from various vocational and technical training programs within a state (private school, adult education, and academic education programs) so as to set up norms against which future programs can be evaluated (158)
- The purpose of the Part-time Adult and Employer Evaluation Study is to assess the vocational training courses offered to adults by the Oklahoma State Department of Vocational and Technical Education (144)
- To determine from the graduates their evaluation of the program's curriculum, facilities and equipment, instruction, and placement assistance (144)
- To determine, from the employers, their evaluation of the adult students' quality and quantity of work, and the student's skills and abilities in the occupation (144)
- To determine program effectiveness in terms of placement of enrollees after exiting from school (245)
- Assess how well school experiences prepared individuals for employment and/or furthering education (44)

Planning

- To provide information on placement and geographic mobility trends for manpower planning purposes (158)
- To provide decision makers with reliable information for planning purposes (245)
- To provide educators a sound base of information to help in the process of allocating funds in the most effective way (245)
- Determine the impact of schools on manpower supply (44)
- Improved program planning (175)
- Provide data for the development of grant proposals (89)

- To make data available annually to high school, 2nd and 4th year colleges for advisement of students and parents in Ag. career planning (234)

Research

- To provide, for comparative purposes, a similar profile of non-credit extension students in the NCCS in terms of their demographic, socio-economic, academic, and attendance characteristics (189)
- Provide a socio-economic and demographic profile of North Carolina adults 18 years of age or older to serve as a comparison base (189)
- Analyze relationships between selected demographic, socio-economic, academic, and educational program area variables in attaining the foregoing objectives (189)
- To help determine the impact of training programs in the supply and demand of human resources in Puerto Rico (245)
- Gather data to form a base for additional studies (44)
- To examine student perceptions of the economy on job retention and mobility (53)
- To examine the relationship between graduates' career patterns and further educational studies in their community college major field (53)
- What were the differences between graduates and non-graduates by programs and levels of graduation in their:
 - a. Selected personal and social characteristics and prior academic achievement?
 - b. Employment activities such as starting and current salary, types of job positions, and location of employment?
 - c. Educational activities after leaving the community college?
 - d. Attitudes toward certain aspects of their community college education?
 - e. Attitudes toward certain aspects of current employment? (217)
- To determine the bi and multi-variate relationships contributing to the prediction of successful outcomes (14)

- To compare the employment and experience of this sample with those of vocational education students responding to a national longitudinal follow-up study sponsored by the National Center for Education Statistics (14)
- Determine relationship of students' final program to occupational choice (80)
- Conduct related research which will facilitate the accomplishment of the previously stated activities (202)
- Provide data on the impact of former students on industry and identify areas for improvement in the TEC program (89)
- What are the characteristics of former students in terms of sex, race, age, marital status, home, residence, parent's education, father's occupation, and academic achievements (e.g., type of degree, completed to date, type of curriculum last enrolled in or completed, cumulative GPA and total number of credits earned) (217)
- What related socio-economic and residency characteristics are discoverable (217)
- What proportion have found employment within their home localities or within Virginia (217)
- What proportion have continued their education and how consistent was that continued education with their community college program (217)
- What factor(s) influenced students to attend community colleges or enroll in specific occupational-technical programs (217)
- Determine current vocational-education status of those that began vocational education transfer programs (80)

Evaluation of the Follow-Up

- To determine if the present system of gathering follow-up data is adequate considering cost for method (144)
- To improve the preciseness of reporting supply data for the Occupational Training Information System through more specific job descriptions (148)

- Eliminate duplication within institutions of multiple limited-item follow-up studies (89)

Other and Multiple Classification

- Develop a consistent on-going methodology for tracking students who have attended TEC institutions (89)
- Provide data for use in public relations activities (89)
- To collect information about the former students concerning their biographic and educational characteristics and plans (122)
- To determine the present activities for the former students (122)
- Determine the extent to which current activities are related to the school program and student goals (44)
- To better define employment status of Auto Mechanics completers, with the direct intent of developing definitions or guidelines for use in determining the related or unrelated occupational status for reporting to the Student Accounting System (148)
- To identify the employment patterns of graduates in the Division of Technology (53)
- To examine further educational studies pursued by students and the types of programs in which these studies were undertaken (53)
- Provide information useful in assisting local school personnel in planning and evaluation (96)
- An organized student record system (175)
- How do retention and withdrawal rates of occupational-technical students vary among programs and types of degree earned (217)
- What are the reasons why non-graduates did not complete their community college program (217)

Summary - Follow-up reports seldom state the goals or purposes for collection of the data. System manuals and users guides often state either goals, purposes or include some statements that define the desired outcomes of the follow-up. The fact that goals or objectives are not explicitly stated does not, however necessarily mean that such were not developed. Perhaps a lesson can be learned from former students and employers who did not respond to follow-up surveys. One of the reasons stated most often for non-response has been that the student or employer failed to see any clear reason or justification for collection of the data. A clear statement of objectives might reduce the effort required to obtain responses from some members of the population.

Review of Selected Practices and Procedures

The preceding section provided a descriptive overview of the characteristics of student and employer follow-up studies. The review, however, revealed several areas which appear to have presented unique problems in the past. These areas were specifically reviewed and findings are summarized below.

Longitudinal Efforts

Some confusion appears to exist regarding the differences between longitudinal and cross-sectional studies. Some reports that claim to be longitudinal are, in fact, cross-sectional. Further, there is no exact definition of the amount of time which must pass before a given study can be considered to be longitudinal. For the purpose of this document, a study is considered to be longitudinal if the same individuals are followed-up two or more times. A study that describes the impact of a program by following-up the same class five, ten, and fifteen years after graduation would be considered longitudinal in nature. Cross-sectional studies are those which follow-up different groups of the same category of individuals at different points in their careers. Thus, a study that attempts to describe the impact of a program by following-up graduating classes of three different years with a single data collection effort would be cross-sectional.

Only seven longitudinal follow-up studies were identified among the reports reviewed. Those found had one of two major objectives: to investigate a specific research question or, to pilot test a longitudinal follow-up system. A number of reports were found to have utilized a cross-sectional design and in several cases such studies had been labeled as longitudinal by their authors. The research oriented follow-up studies which were truly longitudinal took their data in part or total from two sources, the National Longitudinal Study (NLS) or the Vocational Development Study (VDS). It appears that little is being done in the area of longitudinal follow-up of Vocational Education students.

Sampling Techniques

The extent to which the sampling techniques used are described varied widely among the reports and manuals reviewed. Simple random and simple stratified samples were by far the most commonly used sampling techniques. Table 36 describes the sampling approaches used and their relative popularity. Among the reasons given for employing a sampling technique were financial, time and resource limitations, and concern about return rate.

Table 36

Sampling Techniques Used in Follow-Up (n=26)

Simple Random	Simple Stratified	Proportional Stratified	Systematic	Cluster
38	34	12	12	4

A majority of those employing a stratified sample chose to stratify the sample on the basis of program or curriculum. Several reports indicated that additional strata were employed such as geographic descriptors or job market characteristics. In a few instances a matched control group was used and subjects were matched on the basis of key characteristics such as race, sex, and IQ. Only two reports were found which defined the reasons for using a stratified sample and the rationale for the strata used.

The mail-out questionnaire was the most popular method of collecting data among follow-up studies which employed a sampling technique. Of those studies describing the methodology used to collect data, Table 37 indicates that 76 percent used mail-out questionnaires. Personal interviews were used by 18 percent of the follow-ups employing a sample while in six percent of the cases both a questionnaire and personal interview were used.

Table 37

Primary Method Used to Collect Student Follow-Up
Data for Studies Using a Sample (N=34)

Questionnaire	Personal Interview	Personal Interview and Questionnaire
76	18	6

The rationale used to determine sample size was not clearly specified by the majority of follow-up reports or manuals. However, two reports indicated that validity considerations and a need to insure representativeness were factors in establishing sample size. Table 38 describes the portion of the population included in the sample for those studies employing a sample. Sample sizes ranged from 3 to 75 percent of the population. Most of the studies reviewed reported sample size to be 10 to 25 percent of the population. Judgements about the adequacy of sample size are difficult to make on the basis of the portion of the population included in the sample. However, samples are commonly described in this manner. Whether sample size was originally defined as a portion of the population or merely reported in that manner is unclear in many instances.

Table 38

Size of Sample Used as a Portion
of the Population (N=19)

1 to 15	16 to 30	31 to 45	46 to 60	61 to 75
47	48	0	9	6

Table 39 depicts the distribution of return rates for follow-up efforts which surveyed a sample. The median return rate, for those

follow-up studies reporting a rate of return or providing the information necessary to determine a return rate, was computed to be 58 percent. Overall there appeared to be little difference in the pattern of return rates reported by studies that used a sampling technique and those that did not. Three studies were identified which utilized a sample that was ten percent or less of the population and reported return rates of less than fifty percent.

Table 39

Percentage Return Rates for Follow-up
Efforts Surveying a Sample

0 to 25 Return	26 to 50 Return	51 to 75 Return	76 to 100 Return
16	34	28	22

Non-Respondent Procedures

Response rates obtained by follow-up studies vary widely. This review found return rates in student follow-ups to range from under 25 percent to over 90 percent with the median response rate of 60.3 percent. Return rates for employer follow-up studies were found to be higher with only three studies reporting less than 50 percent returns. The Southern Regional Education Board (197) reviewed response rates obtained by college student follow-up studies. They reported a median return rate of 52 percent for follow-ups conducted by two year colleges and 36 percent for four year college studies.

In spite of the fact that response rate for many of the student follow-up studies reviewed was disappointingly low, very few addressed the possibility of non-response bias or carried out formal procedures to determine whether such bias could be inferred. The extent to which the findings can be generalized to the study population cannot be determined without such procedures, particularly in the case of low return rates. The utility of the findings of studies that have ignored the possibility of non-response bias is questionable.

There was some disagreement in the studies reviewed about the definition of non-respondent. A number of studies referred to a non-respondent as any student who did not respond to a particular "wave" or mailing. The present review, however, has defined a non-respondent as any person who has not responded after all the planned follow-up contact procedures have been carried out. For example, a data collection plan might include a first mailing, a second mailing and finally, a telephone interview. After all three of the contact procedures had been completed, those persons who have not responded would be considered "non-respondents" by this definition.

A few studies were identified which did report specific procedures employed to assess the probability of non-response bias. Procedures and findings reported by those studies are summarized below.

Little and Whinfield (124) used a short form of the original questionnaire to follow-up non-respondents after original procedures, two mailings, had yielded a return rate of 54.77 percent. The first mailing of the short form yielded a response from 21.72 percent of the identified non-respondents and the second mailing yielded an additional 5.28 percent return. Out of a total response of 1,517, 501 responded to the short form questionnaire. Separate analyses were conducted for the two questionnaires and comparisons of the two groups were conducted on selected items. Chi-square analyses revealed significant differences between the groups on all selected variables except one. Short form respondents reported a lower rate of job relatedness to training, average incomes were equivalent but the short form respondents had a wider range of incomes. Among females, short form respondents had a lower average income. The authors concluded that due to the significant differences between the two groups, study findings could not be generalized to the total graduating class.

Moore, et. al. (137) used a series of telephone interviews with 20 persons who had not responded after three questionnaire mailings. These telephone interviews attempted to determine why the interviewees

had not responded and whether they were employed in the health field in which trained. They found that the employment status of the 20 persons interviewed by telephone did not differ significantly from the respondents. It should be noted, however, that there were a total of 1040 non-respondents so it is doubtful that 20 interviews constituted a sample of sufficient size to make such generalizations valid.

Gustilo and Trufant (75) randomly selected a five percent sample of non-respondents from each college surveyed for telephone interviews. Significant differences were found between questionnaire and telephone respondents in several areas. Non-respondents reported higher initial salaries although present salaries were not found to be significantly different. Telephone interviewees were more positive in their rating of the quality of their college preparation and on their ratings of counseling and job satisfaction. The authors concluded that the method of eliciting response, rather than inherent differences in opinions of respondents and non-respondents, caused non-respondents to be more positive when rating aspects of the program.

Smith (194) randomly sampled students who had not returned a mail questionnaire to be contacted by telephone. A total of 120 (1973-74) non-respondents and 167 (1974-75) non-respondents were contacted. What portion of the non-respondent population these numbers represent was not reported. Comparisons were made between respondents and non-respondents for respective years. It was found that both non-respondent groups included more males and fewer females than did the respondent groups. More non-respondents were employed full or part-time and a greater percentage of respondents were unemployed. Non-respondents tended to like their jobs somewhat less than respondents. More 1973-74 respondents reported that they had jobs corresponding, or highly related, to their training and that they traveled farther to work than non-respondents for the same year. The 1973-74 non-respondents were found to have the highest average hourly wage. Chi-square tests between the total non-respondent and respondent groups revealed significant differences only on work hours

per week and one-way commuting distance for 1973-74 grads with respondents both working more hours and driving farther.

Tschechtelin (218) used a sequential sampling of non-respondents to determine if non-respondent bias could be inferred. Non-respondents were randomly selected and interviewed by the telephone on selected questionnaire items which could be answered either "yes" or "no". Cumulative frequency "yes" charts were constructed as interviews were conducted. When the yes responses clearly leveled off, interviews were terminated. An arbitrary ten percent tolerance limit was set as an estimate of similarity between respondents and non-respondents. A chi-square statistic was used to test the relationship between the groups at nine colleges. Non-respondents were found to be significantly less interested in transfer goals, to regard their program more highly, to be more likely to be employed and less likely to have transferred. Additionally, significant differences were found to exist between respondents and non-respondents in terms of success, credit hours, grade point averages and rate of graduation. The author concluded that the differences between respondents and non-respondents, made it impossible to safely generalize the findings of the study to the entire population of the first-time students who entered Maryland community colleges during the Fall of 1972.

Finally, the Southern Regional Education Board (SREB) publication, Follow-up Surveys of College Graduates (197), describes both direct and indirect methods for assessing non-response bias in follow-up studies. Either limited random sampling or sequential sampling coupled with telephone interviews on selected questionnaire items is recommended as a direct method. Indirect methods are comparison of the respondents' demographic characteristics with the characteristics of the total population or a comparison of respondents and non-respondents on selected demographic variables. If the demographic characteristics of the respondent and the total population differ, methods to determine the relationship between the demographic characteristics and response to the selected items are suggested. One additional methodology is discussed. The responses of early responders

can be compared with those of late responders. This procedure is based on the assumption that non-respondents are more similar to late than early responders. To the extent that such an assumption is valid, comparisons between early and late responders may reveal bias. The method of sequential non-respondent sampling as used by Tschechtelin (218) and presented in the SREB publication does not appear to be a widely applied technique. Yet it provides a convenient non-statistical approach to non-respondent sampling.

In summary, analyses of those few studies which addressed the problem of non-response bias indicates that differences may often limit the generalizability of study findings. Interestingly, on many variables, non-respondents appear to provide more favorable data than do respondents. This generalization may, however, be limited to the extent that Gustilo and Trufants' belief that such differences may be due to data collection method rather than to true differences in the respective populations is accurate. In any case, one may conclude that low return rates should serve as motivation for non-respondent bias assessment.

Systems Design and Utilization of Findings

Follow-up systems are developed to response to a need for data. In order to respond in an effective manner, the system should be developed with definite plans for interfacing with systems requiring information. Who needs data, the required format, and when the data are needed are all important considerations in planning the follow-up system. It was anticipated that information describing these parameters would be included in systems manuals and other documents discussing the development and operation of follow-up systems. This was generally not the case.

Most of the documents reviewed addressed the issue of systems interface briefly and in general terms. The discussion was usually included in the section describing the objectives of the follow-up system. Thus while the system was designed to provide the information necessary for reporting and/or planning and evaluating vocational

programs, no specific strategies were identified for interfacing with those systems or activities.

A number of follow-up systems manuals was found to describe the flow of the follow-up system. Many manuals provided an extensive verbal description of the system. These descriptions contained adequate information about the major steps in the follow-up procedure and their relationship to each other. However, whether described verbally, pictorially, or both, the information stopped short of describing systems interface strategies in detail.

Numerous documents were found which identified potential or actual consumers of follow-up results. These individuals were often identified in general terms such as state or local officials involved in planning vocational education programs. One instance was found which outlined who received which reports on a regular basis, who had requested the information, and how often the information was produced (142). The TEX-SIS Student Follow-Up Procedures Manual outlines rather extensively the data collected and levels at which it could be used.

It appears that the major factors affecting when information is collected and available, as well as the format of that information, are federal and state reporting requirements. Only isolated instances were found which described specific time lines for the follow-up system. An example of such specification may be found in bibliographic reference 97.

Unique Practices and Procedures

A number of reports, manuals, and articles which were reviewed contained unique or unusual procedures. Additionally some researchers compared alternate methodologies and others made specific recommendations based on their experience with follow-up.

It would be impossible to cite all the unique practices identified but a representative sample are summarized in this section. Examples are classified according to their primary feature or function.

Methods to Improve Return Rates

Reference

Pre-addressed, stamped envelopes and scheduled mailing of the questionnaires to have them arrive on Monday. Forms were printed on light, pastel colored paper.

28

Initiated extensive pre-survey publicity campaign including press releases and personal appearances on local radio and television. One of which was a Spanish language station. Utilized a variety of prompts such as personally signed cover letters and "Important Your Attention Requested" printed near address, to encourage response.

31

Students were telephoned to inform them of the forthcoming survey. The survey was mailed and followed three weeks later by another questionnaire to those who had not yet responded. This was followed by a prompt-telephone call. Some of the students who responded were interviewed and paid for the interview (\$2.00).

101

A variety of suggestions are offered on how to improve the quality of the follow-up questionnaire and improve return rates. Among these are: Preparation of student prior to program completion, use short and easily understood questions, enclose prepaid return envelopes, avoid asking personal questions, offer to mail a list of those in the same class with an update on each student, enclose news clippings concerning the study, use colored paper, send thank-you cards to respondents, and provide educational program on follow-up to board of education.

129

Third questionnaire mailing included a cover letter stating "If there is a reason why you cannot fill out the survey form, please write a note on the survey form indicating the reason you cannot and return the form and note to us in the postage paid envelope."

154

Emphasized the need for sending pre-survey information to those who will receive questionnaires. The results of four different survey methods are compared and the use of pre-survey information, a prompt was found, to be superior.

158

Reference

Postcards signed by the teacher are sent in advance of the questionnaire. 175

Printed "Now It's Your Turn" at the top of the questionnaire to encourage response. 231

Non-Respondent Surveys

Comparison of the differences between responders and non-responders from a vocational rehabilitation program using an interview format. Reported results indicate that non-responders appeared to do better than responders suggesting a bias in the use of respondent data only. 46

Comparisons of the results obtained through self-reports versus direct observation. Demonstrated that the two methods of data collection produced comparable results with no significant differences. Three different outcome measures were used as dependent variable. 85

The authors found that those clients that were more difficult to follow-up generally had poorer outcomes suggesting that response bias may occur if non-respondent data is not taken into account. 139

A sequential sampling technique involved selecting at random nonrespondents who were interviewed by telephone on selected yes and no questionnaire items. 218

Incentives

The effects of two levels of incentives (25¢ vs. 50¢) and three levels of question complexity are compared. Best return rate was achieved with the moderate level of complexity and 50¢ incentive. 12

Used a \$10.00 incentive for subjects whose cooperation was difficult to obtain. 25

A variety of incentives were employed in this study including a raffle ticket, birthday card, pencil, and keychain. 112

Second cover letter indicated that students could receive a copy of the results of the survey if they indicated their desire for one on the questionnaire. 154

Reference

Included in the package was a packet of instant coffee.

170

Comparative Approaches

Comparison of reports of teacher data based follow-up versus student data based follow-up and found significant differences between the two reports. Questions to the students included current employment status, job title and description of duties performed.

49

Differences in return rates as a function of including the student's name of the questionnaire near the survey item requesting salary information. Differences, were found although only slight, with a tendency for a greater return rate and increased reporting of salary among those who received surveys without their name printed on the document.

63

Comparison of the obtained return rate for questionnaires when the following strategies were employed:

1. A single telephone call 10 days after mailing the questionnaire.
2. A written message arriving 10 days after mailing the questionnaire.
3. A personal letter and new questionnaire with a telephone call 10 days after the mailing of the questionnaire.
4. A personal letter and new questionnaire 10 days after mailing the questionnaire.
5. Telephone call 3 days after mailing with another telephone call 10 days later to non-respondents.

The results showed the fifth strategy to produce the highest rate of return with the third and fourth strategy respectively producing the next produced the poorest results.

233

Other

Allow additional questions to be added to the basic questionnaire by localities or teachers.

26,175

Graphics were used extensively to present the results of a follow-up study to parents and former students.

125

Reference

Good use of graphics and cartoons in questionnaire booklet.

245

Localities can develop their own questionnaire as long as specified key questions are included.

243

Students conducted and participated in the collection of data for follow-up reports.

103

Overall Summary

Purpose and Procedures

The ultimate purpose of vocational education as stated in legislation and expressed by many individuals and groups associated with vocational education is to prepare individuals to enter the work force. In order to determine the success of vocational programs in achieving this purpose, it has been necessary to follow-up former students. The purpose of this document was to describe the procedures used to gather information from former students and their employers. The review was restricted to follow-up efforts conducted after 1970 since Little (1970) describes procedures employed in follow-up prior to that date.

Over 600 articles and reports were identified through a traditional computerized search of the ERIC system. Additionally, over 200 documents relating to follow-up were obtained by contacting individuals throughout the United States, territories, and Canada. Some overlap was found to exist in the documents obtained from the various sources. Approximately 300 documents were deemed important enough to warrant detailed review. This document was developed from that review.

Concerns and Issues

Methodology - Systematic planning of data collection procedures does not appear to be a universal practice. Methods should be chosen to achieve the purposes and objectives of the follow-up, with consideration given to alternatives. In many instances, tradition appears to be the major factor in selecting data collection procedures. Considerable information is readily available in the literature but has been ignored. This is most evident with regard to techniques for increasing response rates. The utility of prompts, incentives and the proper timing of information requests is common in the literature. Yet these techniques are infrequently used. Few follow-up efforts of a longitudinal nature were found. There appears

to be a preoccupation with generating mandated reporting data to the exclusion of long range benefits.

Quality of data - Few follow-up efforts were found to conduct checks for non-respondent bias, even when response rates were poor or marginal. Yet most at least imply the generalization of findings to the population. In most instances where a non-respondent survey or check was conducted, generalization was determined to be unwarranted because of bias. A less prevalent but still common problem was an apparent lack of congruency between the stated purpose or objectives of the follow-up and the data collected. Additionally, few efforts report results of investigations of either the reliability or validity of follow-up instruments. The extent to which instrument reliability and validity are scrutinized is uncertain.

Documentation - Complete and detailed documentation of developmental and operational procedures appears to be less than common. Considerable reinvention of the wheel seems to be prevalent in follow-up systems being developed and staff turnover in established systems often makes redevelopment of major system components necessary. Lack of stated objectives and poorly documented procedures and data have encouraged duplication of effort and reduced the overall utility of follow-up information. Of particular concern, is the low number of follow-up efforts found to report the costs associated with operating the system and how they were computed.

Reporting format - The most common format does not include much, if any, data interpretation. Most reports focus primarily on reporting only summary statistics. Historical and environmental influences are rarely recognized or discussed in relation to findings. Additionally, the actual questionnaire is rarely included and response rates, sample design and methodology are often not described. This creates an unfavorable atmosphere for evaluating the reported findings.

Positive Findings

Scope and quality - Some form of follow-up of former vocational students is being conducted in all states, territories and most Canadian provinces. Considerable follow-up is being done that does not appear in the literature such as efforts conducted by local education agencies. Almost all community and junior colleges appear to be engaged in follow-up to some extent. A number of exemplary follow-up systems exist and many other systems include one or more components that are well conceived and executed. Thus it appears that a real effort is being made to improve existing follow-up. The importance of follow-up data in the evaluative process, as outlined in recent legislation, should encourage further improvement.

Available information - A considerable amount of information regarding follow-up is readily available. Individuals involved with follow-up seem to be very cooperative and willing to share experiences and information. Those systems which are exemplary in nature are almost always well documented. In addition to the vast amount of information available which is directly related to the follow-up of vocational education students, much information exists on follow-up procedures and methodologies that have been used in other fields such as mental health and corrections. A largely untapped source of highly sophisticated information is that describing techniques used in marketing and business. One of the limitations of this review is that those sources were not investigated. While considerable general information exists about follow-up, there is a shortage of research based information such as comparison of methodologies or techniques used for increasing response rates.

Attitudes toward follow-up - In general, attitudes toward follow-up appear to be positive. A majority of former students seem to be quite willing to provide information if provided reasonable justification for the collection of data and explanations of how the data will

be used. Although few follow-ups of former students' employers have been conducted, the general response rate of employers when surveyed has been good. It appears that employers are willing, and often eager, to provide information for program improvement if reasonable demands are made on their time. Where negative attitudes toward follow-up exist, these are most often a product of inadequate justification or explanation or failure to provide feedback to cooperating agencies or jurisdictions. Planners of follow-up are developing a positive attitude toward the planning of follow-up and investigating the feasibility of nontraditional approaches to the conduct of follow-up. This is exemplified by the fact that numerous efforts were found to include outstanding or unique practices.

Use of follow-up - While it was beyond the scope of this study to identify the uses of follow-up data or the extent of their use, some information was obtained. Instances have been found where follow-up information was effectively used to benefit vocational education financially, programmatically or for increasing the awareness and acceptance of vocational education by the general public or target groups. Although follow-up has traditionally been viewed as an expensive endeavor, the cost data that were available seem to indicate that the cost does not have to be prohibitive. When follow-up is compared to other methods that might be used to obtain similar evaluative information, follow-up seems to be a bargain. Moreover, the information obtained through a well planned follow-up has the potential for wider utility than that gathered through other means.

Overview of Follow-up Procedures: A Training Guide

The review of follow-up manuals, reports and articles summarized in this document had two primary goals or purposes. The first was to provide the present review and synthesis which is entitled Follow-up Procedures: A National Review. The second was to provide the information necessary to develop a comprehensive and systematic set of materials which should help persons with the responsibility for development, modification or evaluation of vocational student and employer follow-up systems. This purpose resulted in the development of a second product entitled Follow-up Procedures: A Training Guide.

The training guide presents a systematic approach to the development and/or improvement of local or statewide vocational student and employer follow-up systems. Every effort was made to make the Training Guide useable and practical. Many examples of good methodological practices from operating systems are provided and cross referencing to the review document are included to help the user acquire additional information when needed.

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